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THE SCIENTIFIC AMERICAN
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(The Principal Office being at New York,)

By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Expements;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

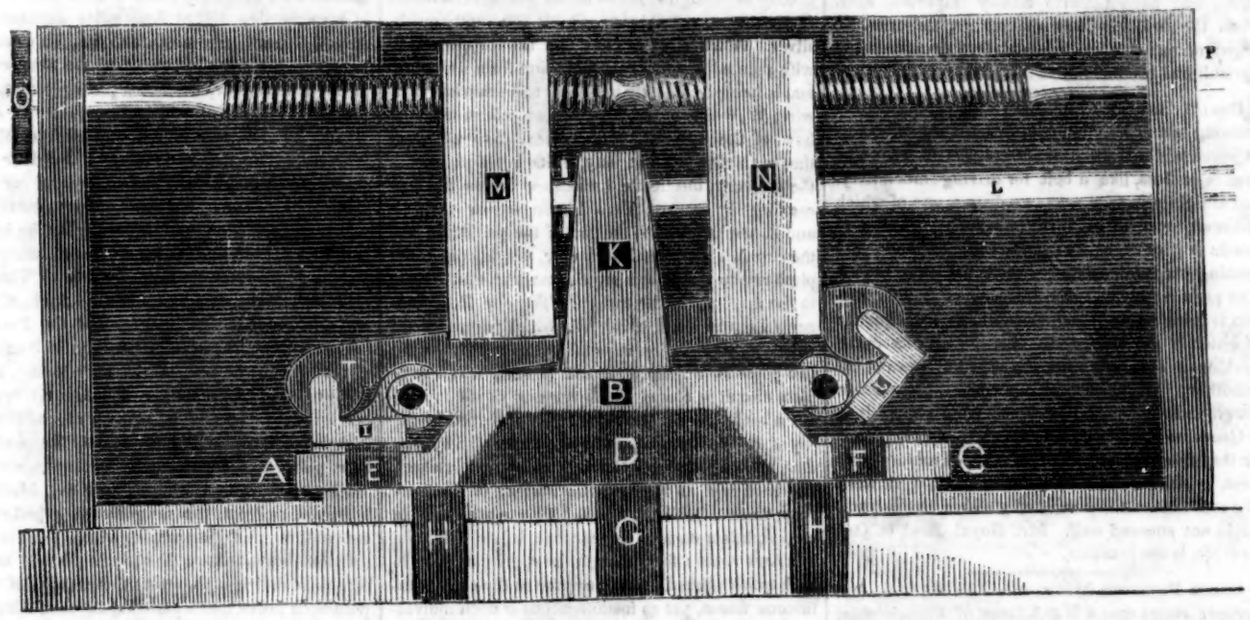
TERMS.—"The Scientific American" will be furnished to subscribers at $2, per annum,—one dollar in advance, and the balance in six months.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent insertion.

PARK'S STEAM-EXPANSION VALVE.



EXPLANATION.—This engraving represents a sectional side view of the interior of the steam-chest or valve-chamber of an ordinary high pressure steam engine. The sliding valve, A B C, is constructed similar to those in common use, and is moved by means of the rod, L, connected to the central elevation, K, and having a cavity, D, to accommodate the escape of the exhaust steam from the cylinder, through the steam-ways, H H, to the exhaust steam-way, G. There are also two steam-ways E F, through the sliding-valve, and over these are two clapper-valves, I J, which are hung on pivots, and so connected by a yoke, T T, that when one of them is closed, the other is, by the same motion, opened. Over this sliding valve are two check-dogs, M N, which are mounted on a long right-and-left screw, O P, which screw has a nut or handle, O, by which it is occasionally turned. It will be seen that one of the dogs is on the *right* thread of the screw, and the other on the *left* or reverse thread: so that when the screw is turned the dogs are moved, but always kept equa-distant from the centre. The bottoms of these dogs are so low that the elevated part of the clapper-valves, in their movements, alternately come in contact with one of the dogs, and each in its turn is thereby closed; the opposite valve being at the same time opened by the yoke connexion. By this arrangement, the dogs may be so adjusted as to close, alternately, each clapper-valve, at any required point of the progress of the piston within the engine cylinder: thus economizing in steam, by allowing it to operate on the piston, expansively: hence the term "expansion valves." The positions of the check-dogs are so easily adjusted, to regulate the supply of steam and consequent proportion of expansion, that the governing right and left screw may be connected to the governor or regulator of the engine, so as to regulate the motion of the engine, by the proportion of expansive action, instead of the usual mode of connection to the induction valve. The patent also embraces the appendage of a circular index, on the end of the steam-chest outside, which, by connexion with the interior, invariably shows what proportion of steam is admitted to the engine. A model in our possession is furnished with this appendage, and may be seen at this office. Having examined various plans of cut-off valves, we have no hesitation in saying that this invention is superior and preferable to any thing of the kind in present use. The patentee, Mr. Stephen Parks, Jr., of Brooklyn, will dispose of patent rights in this invention, by territory or otherwise, on the most liberal terms. For further information on the subject, apply at this office.

The Song of the Silent Letters.

The happiest we of all the dead,
Embalmed to be the school boy's dread,
To puzzle oft his rattle-head
And, such is still the teaching art,
To more than puzzle another part;
To furnish necessary work
For many a thread-bare, dried up clerk.
We're the bramble-hedge of literature,
Designed to make the inmates fewer,
To keep aloof the vulgar masses
From mingling with the learned classes—
And find them but learned asses.
Of strange mesmeric feats we boast,
We take the very deadest ghost,
And, with a pass or two at most,
A silent breathing, like a sigh,
On canvass painted, meets your eye—
No mortal man can tell you why!
Then at our whisk up come a host
Of words, to dance and rhyme with ghost,
And in a nicely ordered muss,
They take their several places thus:—
Boast, bhost, bost kbowst, kboast, kbhost,
Coast, chost, cost, kcowst, kcoast, kchost,
Doast, dhost, dost, kdowst, kdoast, kdhost,
Goast, ghost, gost, kgowst, kgoast, kghost,
Moast, mhost, most, kmowst, kmoast, kmbost,
Noast, nhost, nost, knowst; knoast, knhost,
Oast, ohst, ost, ow'st, koast, khost,
Poast, phost, post, kkowst, kpoast, kphost,
Roast, rhost, rost, krowst. kroast, krhost,
Toast, thost, tost, ktowst, ktoast, khtost, &c.
A band of ghosts ourselves are we,
Who at cock-crowing do not flee.
Unless, indeed, the Crow-new-type
Should give us now and then a wipe,
We don't for crowing care a straw,—
Not we—hurrah, hurrah, hurrah!

Never Rail at the World.

Never rail at the world—it is just as we make it,
We see not the flower if we set not the seed;
And as for ill-luck, why its just as we take it,—
The heart that's in earnest no bars can impede.
You question the justice which governs man's breast,
And say that the search for true friendship is vain;
But remember, this world, though it be not the best,
Is next to the best we shall ever attain.

Never rail at the world, nor attempt to exalt
That feeling which questions society's claim;
For often poor Friendship is less in the fault,
Less changeable oft, than the selfish who blame;
Then ne'er by the changes of fate be deprest,
Nor wear like a fetter Time's sorrowful chain:
But believe that this world, though it be not the best,
Is next to the best we shall ever attain!

All Together.

A teamster whose wagon had in it a load,
Was brought to a halt in a deep muddy road.
The teamster at Fortune nor scolded nor muttered,
But full of good courage this saying he uttered:
No motto is better in all sorts of weather,
Than "a long pull, a strong pull, and a pull all altogether."
The well-harnessed horses were gentle and stout—
And pulling together they pulled the load out.

Since each unto others is yoked or united,
The moral by any should never be slighted.
If you in the highway of life should be stalled,
Remember the teamster, and be not appalled.
Forget not the saying his horses proved true,
And let it your courage revive and renew;
For no motto is better in all sorts of weather,
Than "a long pull, a strong pull, and a pull altogether."

CREATING WANTS.—It is much easier to create wants than to provide for them. We may invent and habituate ourselves to an indefinite variety of dishes, but we should reccollect that, just in proportion as we multiply our wants, we increase our liability to suffering. In the present artificial state of things, the true philosophy consists in diminishing, in simplifying, rather than in extending and complicating our desires. The Rev. Dr. French, late archbishop of Tuam, though wealthy, was extremely simple and temperate in his mode of living.—Whenever he saw one of his children about to try a new dish, not tasted perhaps at any time before, he always said with a smile, "Now you are going to create a want"

The Butcher and His Calf.

A butcher who had purchased a calf, sat with it on a horse at a public house door, on which a shoemaker, remarkable for his drollery, observing, and knowing he had to pass through a wood, offered the landlord to steal the calf for a glass of grog; the landlord agreed, and the shoemaker set off and dropt one new shoe in the path near the middle of the wood, and another a quarter of a mile from it. The butcher saw the first shoe, but did not think it worth getting down for; however, when he discovered the second, he thought the pair would be an acquisition, and accordingly dismounted, tied his horse to the hedge, and walked back to where he had seen the first shoe. The shoemaker, in the mean time, unstrapped the calf, and carried it across the fields to the landlord, who put it into his barn. The butcher, missing his calf, went back to the inn, and told his misfortune, at the same time observing that he must have another calf cost what it would, as the veal was bespoken. The landlord told him he had a calf in the barn, he would sell him; the butcher looked at it, and asked the price; the landlord replied, "Give me the same price you did for the calf you lost, as I think this is full as large." The butcher would not allow it by any means to be as good, but gave him within six shillings of what the other cost, and accordingly put the calf a second time across his horse. Crispin, elated with his success, undertook to steal the calf again for another glass of grog, which being agreed, he posted to the wood and hid himself, where, observing the butcher come along, he bellowed so like a calf, that the butcher, conceiving it to be the one he had lost, cried with joy, "Ah! are you there? Have I found you at last?" and immediately dismounted and ran into the wood. Crispin taking advantage of the butcher's absence, unstrapped the calf, and actually got back with it to the publican before the butcher arrived to tell the mournful tale, who attributed the whole to witchcraft. The publican unravelled the mystery, and the butcher, after paying for, and partaking of a crown's worth of punch, laughed heartily at the joke, and the shoemaker got great applause for his ingenuity.

INCONSISTENCY.—A writer in one of the Boston papers is showing up some of the inconsistencies of the advocates of Sunday legislation. In his last article he speaks as follows:—

"The first day was not the Sabbath, is not, and never can be the Sabbath, until a new creation takes place, and God rests from his labors on the first day: then, and not till then, will the first day be the Sabbath. Mark that! . . . Now, if those who acknowledge the law of the Sabbath binding on them would keep the seventh day as commanded, they would be entitled to credit for consistency. If they say, as I presume they will, that the day was changed to the first, it is for them to prove it, by showing when and by whom it was changed. Should they even succeed in doing this, it would not prove that those who do not make a profession of Chistianity are bound to observe Sunday, but that they themselves are only to observe it in consequence of their profession to do so."

OUTRUNNING A LOCOMOTIVE.—An English paper tells of a race between a mare that strayed from her pasture, upon a railroad, and a locomotive. To her great surprise she found a monster of a new description coming after her and not liking the looks of the puffing, rattling, smoking monster, that was walking so mighty quick after her, she concluded to *put spurs* to herself and try what speed she had on hand. The driver sounded his whistle at its top note, in order to give dobbin fair warning, and perhaps frighten her from the track. This only induced her to quicken her speed, away she went like the wind, with snorting engine and its train thundering after her in the rear. The engineer put on the steam, and screamed his whistle with all his power, but still the mare kept ahead, although they were streaking it after the rate of twenty-miles per hour. Sometimes they lost sight of her, it being in the grey of the morning, and supposed they had run over her, but ever and anon they would catch sight of her as she rushed along like a shadow before them. The more they blew the faster she "*legged-it*," keeping ahead in spite of steam and their clamor. What would have been the issue of this strange race, had it continued much longer, it is not difficult to surmise: the mare's spirit was good, but what, in the long run, can flesh, and blood do against the giant power of steam? As it was, she gallantly kept a-head for full five miles, when just as the flying *cortege* reached the Mark's Tey bridge, the poor animal caught her foot against a stone or part of the rail, and rolled headlong on the down line. The engineer with a parting shriek and puff, passed on; and the mare was found when daylight appeared, nothing the worse for her race and tumble, and in due time was restored to her owner, who, on missing her from her pasture, had been wondering at her whereabouts.

A WOLF IN SHEEP'S CLOTHING.—The Cincinnati Times says that a drover, who had disposed of his cattle in that city, and was returning home by the Cumberland Road, was accosted by a female, having on *her* arm a covered basket, apparently very heavy, asking permission to ride. The vacant seat in the buggy was immediately offered and accepted; but as she stepped into the vehicle, the drover perceived a pair of pants strapped down. His suspicion was excited, he recognized a man, whom he had perceived in the Bank at the time he received the money for a check for a thousand dollars, which sum he had with him. By applying his whip to the horse, he immediately became restive. He got out and requested the *female* to do the same, and after the horse was quieted, thought it best to drive the horse a short distance, for fear the lady might be injured, he droved off in a hurry, and left her ladyship in the road. On examining the contents of the basket, it was found to contoin a bowie-knife and a brace of pistols.

A LUCKY MISS.—The seconds in a late duel who, on the first discharge had nearly been hit by their principals, on re-loading and delivering them their weapons, observed, "perhaps it will be as well for you, gentlemen, the next time to fire at each other."

WORDS FROM THE FRENCH.—The following words, borrowed from the French, are so common in our magazine and newspaper literature, that a brief definition of them may be serviceable to our readers, besides affording many young scribblers a facility for *ornamenting* their compositions. *Attaché*, the train of an ambassador; one's admirers, or "hangers on." *Au-fait*, well acquainted with the subject. *Badinage*, a sort of half-earnest jesting. *Bagatelle*, a trifle; pshaw; nonsense. *Bon-mot*, good word; clever. *Brochure*, a stitched book. *Ci-devant*, formerly. *Cortège*, a train of attendants. *Coup.* sudden action. *Debut*, an entrance: first appearance. *Dejeuné*, the morning meal; in fashionable life, breakfast parties. *Devoirs*, duties; respects. *Douceur*, sweetness. *Empressment*, rapid movement or earnest manner. *Ensemble*, the result of a union of parts. *Gout*, taste: relish.—*Hauteur*, literally heigh: in morals, a good quality. *Haut-ton*, a high tone or style. *Hors*, out of.—*Naivetté*, simplicity: naturalness. *Nonchalence*, indolence: want of sensibility. *Outre*, overstrained; exaggerated. *Par excellence*, by excellence. *Passé*, passed away. *Penchant*, an inclination. *Prestigé*, a presentimental faith. *Qui-vive*, who goes there? watchfulness. *Rapport*, similarity of thought.—*Recherche*, to be sought after. *Soirée*, literally, an entire evening; an evening passed in social enjoyment. *Tableau*, a picture. *Tableau-vivants*, living pictures.

HORRID.—Jack —— went home drunk a few evenings since, as he is in the habit of doing, and retired to his room; presently, the cry of murder, robbers, and the discharge of a pistol was heard by the boarders, to proceed from his apartment, and on hastening in to learn the cause, they found him leaning against his bed, much agitated, saying, I have killed him, look there! and on looking they saw a fifty dollar looking-glass, all broken to pieces. He had seen his own face and shot at it, supposing it to be a robber.

THE MYSTERIES OF TYPE-SETTING.—A country gentleman came into a certain publisher's office, and remarking that he liked the paper, except that the type was very small—added, after a little reflection, that he supposed in the commencement of the enterprise, the publisher could not afford to use larger type. The publisher took no special pains to contradict him.

COOLNESS.—President Webber of Cambridge College, when sailing one day with a company for pleasure, accidentally fell overboard. After sinking pretty deep, he at length came up, and raising his head above the surface of the water, he gravely observed, "it is expected, gentlemen, that you will hand me a rope."

A NEW DEVICE.—A sly old soaker in Boston who had been marked for the singularity of always, carrying a boot in his hand has been found out at last. It has *leaked* out that the boot always contained a bottle, and that the bottle contained a drop or two that was peculiarly grateful to the old soger's palate.

Glossary of Mechanical Terms.

(Continued from No. 32.)

LOCOMOTIVES—The power of changing place.
LOOM—A machine used by weavers in the making of cloth.
MACHINIST—One who makes machines.
MANDREL—Part of a lathe: cone used by smiths: a cylindrical piece of polished iron or steel, put down the core or hole of a pipe during the process of elongation.
MASTERING—Preparations of lime used by tanners.
MATRICE—The concave form of a letter in which the types are cast.
MAXIMUM—Is the utmost extent of any movement or power.
MECHANIST—One acquainted with the laws of mechanics.
MILL-HEAD—The head of water which is to turn a mill.
MILE-TAIL—The water which has passed through the wheel race, or is below the mill.
MINIMUM—The reverse of maximum
MOMENTUM—The force possessed by nature in motion.
MONKEY—A weight or mass of iron let fall from a height to drive piles into the earth.
MORTISE—A joint.
MOVEMENT—The working part of a watch or clock.
NAVE—The centre or that part of a wheel in which the spokes are fixed.
NEALING—*Vide* Annealing.
NIPPERS—Pincers with cutting edges for dividing metals.
NITRIC ACID—A corrosive acid extracted from nitre.
OUSE—Preparation of bark used by tanners.
OVERSHOT-WHEEL—A wheel which receives the water in buckets at not more than 45 degrees from the apex.
OXYDE—A combination of oxygen with a metalic or other base.
OXYGEN—A gas which supports combustion.
PADDLE—A kind of oar: floats to a wheel.
PALL—A small piece of metal which falls between the teeth of a ratchet-wheel, to prevent a load, which has been raised, from descending when the operative power is removed.
PALLET—That part of a watch or clock escapement on which the crown-wheel strikes.
Pendulum—A weight suspended by a flexible cord to an axis, so as to swing backwards and forwards, when once raised, by the force of gravitation.
PERIPHERY—The circumference of a wheel.
PERPENDICULAR—At right angles to a given base.
PICK—A chisel for dressing the stones of a flour-mill.
PILE—A large piece of timber, pointed at one end, to drive into the earth to sustain the piers of bridges, &c.
PIN—To strike a piece of metal with the narrow end of a hammer to form dents and produce elongation.
PINCERS—A tool formed by placing two levers on one fulcrum, regulated by a screw-movement, for holding bodies firmly.
PINION—A small toothed wheel.
PIRN—The wound yarn that is on a weaver's shuttle.
PISTON—A plug made to fit tight and work up and down a cylinder in hydraulic engines.
PITCH-LINES—The touching circumference of two wheels which are to act on each other.
PITCH OF THE WHEEL—The distance from the centres of two teeth, measured upon their pitch line.
PIVOT—A short shaft on which a body turns or vibrates.
PLATINA—A white metal capable of withstanding great heats.
PLIERS—A small tool constructed similarly to pincers.
PLUMB—A leaden weight suspended by a cord, to ascertain the perpendicular.
PLUNGER—A body that is forced into a fluid in hydraulic engines, to displace its own weight.
PORTABLE STEAM-ENGINE—A steam-engine built in a compact form, and not attached to the wall of the building in which it works.
PROPORTIONAL CIRCLES—*Vide* Pitch-lines.
PROPORTIONAL RADII—The radii of two circles whose circumferences are in contact.
PUDDLING—The act of ramming with clay to arrest the progress of water.
PUDDLING-FURNACE—A furnace used in the iron manufactures.
PULLEY—A small wheel on which a strap is passed.
QUINTAL.—A French or Spanish weight equivalent to 100 lbs. of those respective nations.

(To be continued.)

A BUTTERFLY FLOWER.—In the gardens of San Joseph and its environs is seen in its greatest perfection *le papillon vegetal*, which grows on a species of ivy, entwined round a poplar or any other tall tree. This blossom is an exact representation of a living butterfly; most unfortunately, there is no method of preserving it, even for a time; no sooner is it gathered than it withers and falls to dust.

CONSUMPTION OF COTTON IN THE U. S.—Since 1816, a period of 29 years, the amount consumed has increased from 11,000,000 to 196,300,000 lbs.—more than sixteen fold. During the same period the increase of consumption in Great Britain has been from 88,000,000 to 560,000,000 lbs.

WAR EXPENSES.—The French War Department, principally for Algiers, costs this year $60,000,000. Costly conquest. And the most amusing part of the affair is, that the French keep 80,000 soldiers there to protect 50,000 settlers.

SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, APRIL 30.

Those of our city subscribers who intend removing on the 1st of May, are requested to give notice thereof, beforehand, to the carriers, that there may be no confusion on that account.

Post Masters—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics.

Drawings of machinery, engraving on wood, and lithographic drawings, neatly executed, at the lowest prices, at this office.

To Correspondents.—We have received a set of drawings and description of a Pocket-clasp and lock; but without the name or residence of the inventor. There is evidently another paper which should have accompanied the package.

Our correspondent of Southfield, and J. P. J. of Waterbuay, have our thanks for communications.

The intelligence required by "A Subscriber," of Newark, will be forthcoming without much delay.

Science of Mechanics.

(Continued from No. 32.)

Caloric and its uses.—Caloric is a substance which pervades all bodies, and constitutes both light and heat. It is not subject to the laws of gravity or inertia, wherefore it is called an imponderable substance. It is supposed to be nearly allied to Electricity and Galvanism; but this connection is but faintly understood, although the electric spark appears to consist of caloric in its most pure and ferfect form. Our present purpose, however, is to explain its uses and effects as applicable to the Mechanic Arts. During the combustion of fuel, a small quantity of caloric is given out by the fuel; but by far the greatest portion is derived from oxygen gas, which is one of the component parts of atmospheric air. During the process of combustion, air is decomposed, and the oxygen combines with the fuel, thus liberating the caloric, which thus evolved, constitutes light and heat, both of which radiate, and affect all contiguous bodies. Heat uniformly expands all bodies, and diminishes the cohesion of their parts and particles; it tends to reduce all solids to fluids, and all fluids to a gaseous state. There is no substance known which is capable of containing more caloric, or which is more perfectly combustible, than water, or its component parts. Oxygen and Hydrogen, which are the component parts of water, being mixed together in the gaseous state, will, on the application of flame, explode with great violence, liberating a quantity of caloric, which appears in an instantaneous and brilliant flash of flame. The caloric, which had been held latent in those gases, being thus liberated, the oxygen and hydrogen combine in the form of water. When heat is applied to ice—which is the primitive state of water—it is reduced to a liquid state, but imbibes a large quantity of caloric in the process, which becomes latent. Water, by application of caloric, by means of a common fire, is converted to steam at a temperature of 212 degrees, but imbibes in the process about 8000 degrees of heat, under the ordinary atmospheric pressure. If the surface of the water sustains additional pressure, a greater quantity of caloric is required to produce steam; but no substance has been found strong enough to restrain water, and prevent its expansion in the form of steam, when under the influence of excessive heat. Hence proceeds the immense power by which steam engines are operated. The caloric contained in steam, is readily imparted to any substance with which it comes in contact, and the steam is reduced to water, ready to be again used for the re-production of steam as before. Heat is produced readily by rubbing together two hard substances, and this method is often practised by savage nations for producing fire. The cause of the production of heat by this method, has never been satisfactorily explained; but it is evident that the heat thus produced, proceeds from electricity, from the circumstance that heat is often produced by the motion of one hard surface when not in actual contact with another, but *nearly* so. In this case there is no actual friction, but merely a contiguity of a moving surface to one that is stationary, or moving in a contrary direction. When two pieces of flint or quartz are struck together, a spark of fire is elicited, containing both light and heat. This spark consists of a burning particle of the stone, ignited by electricity in consequence of the concussion of the surfaces; or, as is sometimes the case, it may be the pure electric spark. When water is thrown on fresh burnt lime, a part of the water becomes solid, uniting with the lime, and increasing its weight although the lime remains perfectly dry. In this case, the caloric which the water contained when in a liquid state, is liberated, and raises the temperature of the lime above the boiling point, and sometimes sets fire to the vessel which contains it.

(To be continued.)

Water Power at the West.—The Milwaukie River is crossed by a noble dam eighteen feet in height and nearly five hundred feet in length. A Canal is cut on one side, and paralel with the River, which affords some of the best mill sites in the West. A line of mills and factories may be extended to nearly a mile in length on the canal, and all be sufficiently supplied with water from its bed.

Our New Bedford Correspondent.—In our last number we published a communication from New Bedford, by "A Subscriber," the author of which is requested to give us his proper address, as it will probably conduce to his advantage.

Who has lost a Lock.—Some one of our visiting friends has left a new cheat-lock on our table, and have probably forgotten where they left it. He is requested to either take it away, or send us the key.

New Inventions.

Fitzgerald's Braiding Machine.—There has seldom been invented a machine, in which a greater effort of inventive genius was evinced, or more perfect success attained than in this apparently intelligent machine, by Mr. Elisha Fitzgerald, of this city. The straw is prepared for this machine, by simply being cut the requisite length, and steeped in water. It is then put in a proper box or holder, perhaps two hundred straws at once, and the machine, requiring only a very slight power from water, steam, or hand, does the rest. Each straw is picked up separately when wanted, and carried to the right place; two strands are carried over and packed down at each revolution of the machine; and whenever the small, soft portion of the straw is braided in, the machine cuts it off and goes after another. Should it not find one where it has a right to expect it, or should an unfit one be presented, it *stops working!* The attendant then puts the right sort of straw where one should be, and off she starts again! This putting in a straw when one happens to break or miss, (which is rarely,) and the feeding with straw by the handful, are all the work required of the attendant, who may thus attend twelve to twenty machines, each of which is braiding faster and far better than could possibly be done by hand. The machine is of moderate size, requiring perhaps three feet square of room, and is built at a cost of about $300 for each. The Straw also, which has been hitherto wholly imported, even when the braiding was done here, will now be grown on our own soil, giving a farther diversity to agricultural production.

Beal's Endless Saw.—We have received a drawing and description of a *belt-saw*, which is now in successful operation at Oxfordville, N. H. The saw is endless, like a belt for driving machinery, and is tightly drawn over two drums, one of which is directly over the other, the saw being sufficiently elastic to play over them with perfect freedom, and running perpendicularly between the two drums. The peculiar advantage of this saw, is, that its motion is continuous in one direction, in consequence of which it not only accomplishes twice as much work as an ordinary vibrating saw, but saws much smoother. We have been informed that a similar plan for sawing, was introduced some years since in Georgia: but as that did not succeed, it is probable that this inventor has effected such an improvement, that the invention will continue to work well. We could never understand why a saw, on this plan, might not succeed well. Mr. Royal Beal, of Oxfordville, is the inventor.

Color Printing Machine.—The Newark Advertiser states that a Mr. Adams, of Philadelphia, has invented a machine by which any variety of colors are printed at one impression. The plan is somewhat like that of a ruling machine. The ink fountain is divided into sections, capable of enlargement or diminution, or variety of arrangement at pleasure. This is a very valuable discovery, for until now it has been necessary to take an impression for each color.

Deshon's Submerged Propeller.—We have heretofore noticed the rumors and reports concerning this extraordinary invention, and are now permitted to announce that we have a beautiful model on hand, and shall probably be able to present an engraving and description thereof in our next number.

Southern Pine.

The use of wooden blocks for paving streets, has been utterly abandoned in the principal American cities, as it was easy to foresee it would be, considering the inconsiderate manner in which it was eagerly adoped and managed at the first. A correspondent, writing on this subject, remarks that the wood which was selected for this purpose, was the poorest kind that grows; because it is the most liable to rot; and not hard enough to endure much wear and hard pressure, even on the end of the grain. He adds, "I should recommend for this the Southern yellow pine, because it is very strong and firm endwise, and will wear well; and from its pitchy nature will not be liable to decay: and moreover, in warm weather the pitch will fry out, and combine with the dust, making the most durable cement, and rendering the pavement equal to carpeting for carriages to run upon. I think this wood might be obtained as cheap as any other, if some enterprizing Yankees should go south, with suitable machinery for cutting out the blocks, and then ship them to the principal ports. I have travelled several thousand miles in the pine forests of the South, and have known the finest timber land I ever saw, to be sold for from 12½ cents to $1 per acre, with timber enough on one acre to pave one half of Broadway, with a paving that would last 100 years."

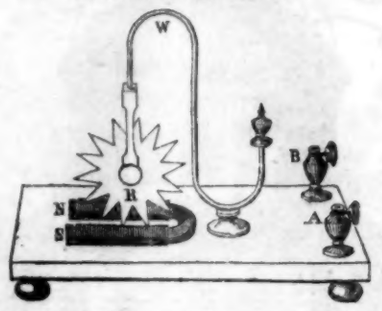
From these statements of our correspondent, it does appear reasonable to suppose the Southern pine to be the most available for that purpose, to be used either with or without the process of kyanizing. It is also stated by our correspondent, that large quantities of this pine timber may be obtained within two or three miles of boat navigation. We have no doubt that wooden pavements will yet prevail, if the progress of other improvements continues; and it may be well for some of the cute speculating Yankees to examine the subject.

Ancestors.—The number of ancestors a person has, is astonishing at first sight; at first two ancestors, in the second four, the parents of his father and mother; in the third eight, the parents of his two grandfathers and grandmothers; by the same rate of progression, 1024 in the tenth; and at the twentieth degree, or at the distance of twenty generations, every person has above 1,000,000 ancestors, as common arithmetic will demonstrate.

Locomotion.—The whole number of railroad trains leaving Boston daily, is about ninety, for some twenty-five different stations. About one in every ten minutes, for sixteen and a half hours each day.

Galvanism.

Continued from No. 32.



Barlow's Revolving Spur-wheel.—There are a variety of modes of producing rapid rotary motion by a current of galvanic electricity, which we shall describe in succession, with illustrative engravings. Of these, the most simple in construction, and one which affords a curious and interesting phenomenon, is the revolving spur-wheel. When any part of a galvanic circuit is placed near, or especially between the prongs of an electro-magnet, it has a tendency to move either towards or from the poles of the magnet, according to the direction of the current. On this principle a machine is constructed, consisting of a small platform, on which is placed an electro-magnet, in a horizontal position, as represented N S in the engraving. A small groove or trough is made in the platform between the prongs of the magnet, and is filled with quicksilver. A wheel, R, is cut out of thin copper plate, with pointed arms or rays radiating from its centre, and is hung by its axle between two branches of a wire, W, which is attached to the platform near the bow of the magnet. This wheel is so adjusted, that each ray or point may, in its rotation, dip in the mercury, but leave its surface before the succeeding ray enters. Two binding-screw cups, A and B, are attached to the end of the platform; and the cup A is connected by a wire, passing under the platform, to the helices on the magnet, and thence to the mercury in the trough. The cup, B, is connected to the stand wire, W, which supports the wheel. The binding cups being connected to the two poles of a battery, it will be seen that a complete circuit is closed whenever one of the rays of the wheel dips in the mercury: consequently the ray is moved forward, and being succeeded by another, a rapid rotary motion is produced in the wheel, and each ray as it leaves the surface of the mercury, emits a brilliant spark. This wheel, thus in motion, has a curious appearance when exhibited in a dark room: for although the sparks appear in such quick sucession as to appear to the eye a continuous flame, yet so instantaneous is each individual spark, that the eye cannot thereby discover any motion in the wheel, which consequently, although brightly illuminated, has the appearance of standing still.

(To be continued)

Arts and Trades.

German Silver.—We published a few weeks since, what purported to be the composition and mode of making the alloy called German Silver; and described the process as it was originally practiced in Germany, in the manufacture of what is there teimed *white copper*. But the Yankee process of making the *German silver*, of which the beautiful spoons, spectacle-frames, and various other articles, are manufactured in this country, is very different, as we learn through the politeness of a friend in Connecticut, who has been employed in preparing it for the manufacturers.

Process.—Put into a crucible or melting pot, one lb. (or part) of nickel and three lbs. of copper over it; place them in the fire, and when they are thoroughly melted and mixed, add one lb. of zinc, and incorporate the whole together, excluding as much as possible the atmospheric air, to prevent the combustion of the zinc.

We have seen some inferior specimens, in which a larger proportion of zinc was employed: but the above proportions may be relied on, to work freely, and will afford a brilliant lustre.

The Solar Eclipse.—There was much dissatisfaction and regret expressed on account of the failure, or rather the non-appearance of the eclipse of the sun, on Saturday. Thick clouds pervaded the atmosphere in this section, which rendered the day dark enough without an eclipse. It is calculated by astronomers that this is the 43d periodical appearance of this eclipse; and that it will appear again in 1864, May 6, invisible in the United States; again in 1892, May 16, sun totally eclipsed: and so on, periodically, until A. D. 2441, May 17, 1h. 43m. A. M., when the shadow will just touch the earth at the north pole, being its last appearance for 12,492 years, when it will come on again at the south pole and go through a similar course.

"The Sun."—This first, (though not the oldest) daily paper in New York, often advances sentiments of liberality which can hardly fail to command the approbation of the mass of working men; and very different from what might ordinarily be expected from an editor so highly favored by fortune as M. Y. Beach. We are led to these remarks at this time, by observing in the Sun of Tuesday, —the day of election of delegates,—an admonition to voters to "vote only for such men as are opposed to legislating for the *few* to the injury of the *many*: for men who consider that *man* should be more cared for than *money*, &c." Such sentiments from such a source may well be regarded as among the anomalies of the times, and worthy of the respectful regard of every truly American patriot.

The Power of Steam.—A *pint* of water, evaporated by two ounces of coal, swells into two hundred and sixteen gallons of steam, with a mechanical force sufficient to raise a weight of thirty-seven tons a foot high.

The earth is our work house, and heaven is, or should be our store-house. Our chief business here should be to lay up treasures there.

Mr. Wright's Bridge again unavoidably deferred.

The Panama Canal.

The following account of the European movements, on the subject of a ship-canal across the Isthmus of Panama, was recently published in a French journal. Our readers will see by the statement that the construction of a ship-canal would be all but impracticable; and that it would be but an uncouth concern to manage at the best. And since the practicability of a safe transportation of vessels by railroad has been demonstrated, any attempt to construct a ship-canal on that route would merit the derision of all scientific men.

"Some time since M. Garella received a commission from the French Government to proceed to Panama for the purpose of inquiring upon the spot into the practicabiliy of the many schemes which have been devised for cutting a ship-canal through the isthmus. The report of that gentleman on this subject has recently been published, and presents (says the Debats) the results of the first scientific exploration that has been undertaken in regard to this celebrated passage. The direction fixed upon by M. Garella as the most eligible for the proposed canal is on the side of the Pacific ocean, through the valley of the Caimito, so as to *debouche* upon the sea at the anchorage of Vaco de Monte, lying about eighteen or twenty kilometres (eleven or twelve miles) to the west of Panama. On the side of the Atlantic ocean the course should be along the valley of the river Chagres, but not to terminate at Port Chagres, which is inaccessible to ships of large burden, but at four miles distance in the Bay of Simon. From the Caimito, the canal is to be directed along the course of the Bernardino, a feeder of that river, whence it proceeds to the Ahogayegua mountain, which it crosses at a point where it is 455 feet above the level of the sea. Thence it falls into the valley of the river Pajer, (otherwise Bonito,) which it follows as far as Dos Hermanas, where it joins the Chagres, parallel with which river, and sometimes occupying its bed, the canal is to be carried as far as Gafun, where it diverges to arrive at the Bay of Simon. The whole distance will be about 47 miles in length, of which 33½ are between the Chagres and the Pacific, 7½ between the Chagres and the Bay of Simon, and about 6 along the bed of the river itself. The canal is to be of the following dimensions: depth, 22 feet 9 inches; breadth at water surface, 146 feet 6 inches; at bottom, 65 feet. Ninety-four locks will be required in order to reach the summit level, each costing on the average 600,000 francs. M. Garella however, suggests the magnificent expedient of a tunnel through the mountain, which, besides the dimensions stated above for the canal itself, must be of height sufficient to permit the passage of vessels with their lower masts standing 120 feet at least, and will be three miles and one-third in length. The estimated cost of the tunnel is fifty millions of francs, but it will enable the canal to be constructed with a summit level of only 160 feet, and greatly enhance the future advantages of the undertaking by dispensing with by far the greater number of the locks. The total expense of the canal is estimated at 125 millions francs, (five millions sterling.)

The Learned Blacksmith.—We are happy to hear that this strong and whole-hearted cosmopolitan proposes to take a trip to England. The manner of it is just the thing, and shows the blacksmith to be wise. He says:—"About the first of June, we propose, under certain conditions, to take steamer or packet for England. On our arrival we propose to take a private hickory staff and travel on, like Bunyan's pilgrim, through the country, at the rate of about ten miles a day.

"With a pocket for my wheat, and a pocket for my rye,
And a jug of water by my side, to drink when I am dry."

"Passing thus leisurely on foot through the agricultural districts, we anticipate the opportunity of looking through the hedges and into barn-yards; sometimes into the kitchens of common people, once in a while into a blacksmith's shop to smite at the anvil. In fact, we intend to pull at every latch-string that we find outside the door or gate, and study the physiology of turnips, hay ricks, cabbages, hops, ruta baga, &c., and of all kinds of cattle, sheep and swine. We propose to avoid the *lions* of the country, and confine our *walks* to the low lands of common life; and to have our conversation and communion chiefly with the laboring classes. Perhaps we might get together a knot of them some moonshiny night and talk to them a little on Temperance, Peace, and Universal Brotherhood. During such a pedestrian tour, we think we might see and hear some things which a person could not do while whizzing through the country on the railroad at the rate of thirty miles an hour."

The blacksmith is right. We would rather travel through Great Britain as an itenerant musician, than as a fashionable swell of a tourist.

Foreign News.

The Steamship Great Westera arrived on Tuesday, sixteen days from Liverpool. We find but little news of importance by this arrival. Political matters remain in *statu quo*. Much difficulty prevails between operatives and their employers. Austria is kept quiet only by Austrian bayonets. The Archbisnop of Canterbury has composed a prayer, to be used by the people, for the success of the British arms against the East Indians. Nearly all British ships-of-war, *about home*, are to be assembled together in about a month.

Benevolence Rewarded.—A benevolent gentleman of Boston, who had been in the habit of bestowing very liberal donations upon a widow lady whom he considered destitute of the means of a comfortable livelihood, was surprised, upon the death of the poor widow, a short time since, to find that she had made him executor of her will, leaving an estate of $12,000.

New Foundry.—A new foundry is to be established at South Boston, by Cyrust Alger and others for the manufacture of iron, steel, and copper articles, with a capital of $200,000. About one hundred and fifty hands will be employed.

Variety

A Mr. Smith has demanded compensation, from the Cork and Bandon Railway Company, for the injury which would be done to the *milk of his cows*, by reason of the noise, steam, and smoke of the locomotives in their transit!

A liquor-dealer in this city, has added to his business establishment a coffin manufactory. He should procure the office of sheriff or constable, and employ several experienced undertakers, to complete the establishment.

It is said in the New Orleans papers that an unusual number of flies have filled the city, but that on one day they were struck dead by thousands wherever they lit. The phenomenon has not been accounted for.

A man in Bath County, Ky., was lately found drowned in a small brook, in which the water was less than ten inches deep. He had so enfeebled himself by intemperance, that he could not crawl up the bank.

A new and un-named engine was employed for the first time, in conveying the Caledonia's express from Boston to Worcester, which it accomplished (42 miles) in 55 minutes. It has since been named the "Express."

The Bristol Print Works at Taunton, turns out 1500 pieces of muslin de laine per week. These goods are of the richest quality, and have almost excluded the foreign article from the market.

A building is about to be erected in Washington city, 500 feet by 200, for the great National Fair, to be held there on the 20th of May, a notice of which will be seen in another column.

A boy, calling on a doctor to visit his father, who had the delirium tremens, not rightly recollecting the name of the disease, called it the *devil's trembles*; making bad Latin but very good English.

The night trains of passenger-cars between Boston and Albany are well patronized. We are informed that the cars are furnished with seats in which passengers can sleep comfortably on the way.

"Encourage your own mechanic," says the "Fall River Mechanic;"—so say we. It looks illiberal and ungenerous for a man to employ a mechanic from out of town, instead of patronizing his neighbors.

It is one of the most common errors of mankind to think that the possession of something which they cannot obtain, would greatly increase their happiness.

Lines of omnibusses from Charleston and Roxbury, to Boston, have adopted the six cent fares. It is vain to attempt holding high fares in these times of competition.

A bakery and grocery store, in Cleveland, O., were blown up lately by the accidental explosion of about five lbs. of gunpowder. The building was badly shattered, but no person was injured thereby.

Two Irishmen near Chicago, Ill., lately tried their whiskey-drinking capacity on a wager. The consequence was that one of them died immediately, and the other is not expected to recover.

The people of Boston have voted—4,687 to 348—to accept the Act authorizing the city authorities to procure water from Long Pond. The work will now be pushed in good Yankee style.

An iron canal boat, the Vulcan, recently cleared from Albany for Rochester, with a cargo amounting to 126,400 lbs., the toll on which amounted to $220. The Vulcan was built at Rochester.

A cotemporary in puffing a razor-strop paste, compares the edge of a razor thereby produced, to "Corporal Streeter's best wit." How the corporal must feel when he sees the puff.

The proprietors of the Democratic Review are said to have about $40,000 due them on subscriptions. The publishing of papers on credit, is a beautiful business, independently of the profits.

An eminent lawyer has discovered a method of detecting a consciousness of falsehood, even in the most brazen-faced witness. It is evinced by an involuntary trembling of the muscle under the eye.

The Government of Rome have recently seized several valuable works on Galvanism—supposed to have mistaken the name for the dreaded one of Calvinism—as dangerous to the State.

Dr. Lardner is said to be now in Paris, engaged in preparing a work entitled "Five Years' Residence in America." If he does justice to the folly of his patrons, the work will be interesting.

An adroit thief lately succeeded in purloining money from the counter of one of the city banks of Cincinnati, between the hands of the teller and the drawer of the money on a check presented.

"O yes, O yes," proclaimed an Irish crier, "lost between 12 o'clock and Mr. Kinley's store, on Market strate, a large brass kay:—I'll not be afther tillin' ye that it is the kay of the Bank.

The splendid steamer Oregon, we are happy to say, has been released from her perilous situation on the rocks of Hurl Gate, is now in course of repair, and will soon be running again.

Estimating the increase at three per cent. per annum on the census of 1840, the population of the United States would amount to 20,140,370, on the 1st June, 1846.

A printer out west, whose office is a mile from any other building, advertizing for an apprentice, says, "a boy from the *country* would be preferred."

We have a variety of interesting railroad intelligence on hand, but find no room for it in this number.



To the Working-man.

When you behold a candidate
For office, proudly stride along,
Or at the caucus hear him prate,
Lamenting o'er the poor man's wrong,
Restrain yourself: keep on your hat,
Make not the least obsequious fuss,
For what has an aristocrat
In Congress ever done for us?

When you behold a hero, crowned
With laurels he has never won—
While venial fools with looks profound,
Tell how the glorious deed was done,—
Restrain yourself: keep on your hat,
Make not the least obsequious fuss,
But tell his conscience-keepers that,
They shall not palm their lies on us.

When they lament that trade is dead,
Our factories in a decline,—
That industry is begging bread,
And they are stinted in their wine,
Restrain yourself: keep on your hat,
Make not the least obsequious fuss,
Though they lament, be certain that
'Tis for themselves, and not for us.

When they declare each poor man's vote,
A knell for sacred freedom tolls,
That honor—virtue—shun the coat,
Where poverty is picking holes.
Erect your head, cock up your hat,
Scorn them and their unholy fuss,
And tell the venial hirelings that,
They never shall defranchise us.

When candidates, with accents bland,
In crowded streets encounter you—
And seizing on your toil-worn hand,
Ask how your lovely children do,
Restrain yourself: keep on your hat,
Nor make the least obsequious fuss,
Despise them—if 'tis only that,
They should affect to care for us.

But when equality shall spread
It's banner to the morning air,
And call the spirits of the dead,
To bless their sons assembled there,
Arouse yourself, throw up your hat,
Rend with your shouts the welkin blue,
For know 'mid countless thousands, that
You hail in each a brother true.

Man's Mind is Free.

Man's mind is free; 'twas always free I find;
Tyrants could never chain the human mind;
Despots may rule with iron rod, and rave,
They never can the human mind enslave.

They might as well curb heaven's vivid flash,
As curb man's mind by dungeon, rack, or lash;
Yea, full as well with cobwebs think to bind,
The charger, as with steel, the human mind.

They might as well attempt to hide the sun,
With a gauze veil, and cry the world's undone,
As place man's person in complete control,
And then suppose they had subdu'd his soul.

They might as well with their own puny force,
Arrest the mighty river in its course,
This they may do, and sooner ocean bind,
Than tame the bold and daring human mind.

Shall souls that scan the earth, the air and main,
Shall they be limited by a tyrant's chain?
It cannot be; it cannot be confin'd,
It ranges forth as free as air or wind.

Let Smithfield fires resume their wonted glow,
Aye, fiercer burn, and hotter torments show;
Let Bigotry turn foe to all mankind:
Man's soul is free, unfetter'd, unconfin'd.

Though superstition does the world enshroud,
And darkness veils the earth as with a cloud,
The pilgrim's barque will cross the stormy sea,
The Alpine heights proclaim man's spirit free.

The spacious earth for man is mean and poor,
'Tis but his birth-place and his sepulchre;
His nobler powers from this poor earth are riven,
That they may grow, expand, and live in Heaven.

The First Birds of Spring.

Ye come, ye come, bright warbling things,
And joy is in your song;
Ye bear upon your dewy wings,
The spring's first breath along.

Ye herald in the happy morn,
That is the birth of flowers,
Ye tell that winter's chills have gone,
Its snow and icy towers.

Ye hide the earth in its carpet weave,
In Nature's matchless loom;
The warp for many a grassy leaf,
The woof from floweret's loom.

Ye bid the naked branches dress,
In all their proud array,
And all things don their loveliness,
To welcome back the day.

Ye bid the icy fetters fall
From many a prisoned rill,
And onward joyful to your call,
They gambol down the hill.

All nature wakes from sleep: the cloud
Shades not the sun's bright ray;
No more the storm-winds howling loud,
Disturb the zephyr's lay.

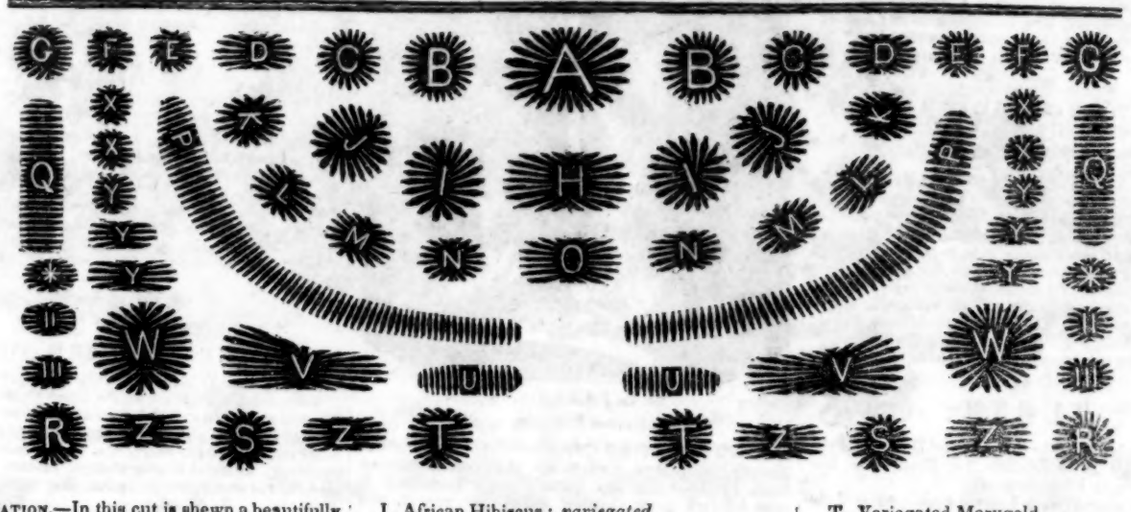
Pass on, pass on to other land,
Ye birds of merry note;
Sing there of spring, ye starry band,
From every tuneful throat.

And gladden every heart that hears
Your message from above,
Pass on, and dry up winter's tears,
Sweet harbingers of love.

THE CULTURE OF FLOWERS.

People who have the advantage of even a small plot of ground for this purpose, may now lay the foundation of much enjoyment through the season, by procuring and planting in a tasteful and judicious order, a few shillings worth of flower seeds. No person of the least sentiment or taste, can fail of deriving some degree of enjoyment from the cheerful and smiling appearance of full blown flowers, grown under his or her own culture and attention; the flowers themselves apparently expressing gratitude for this attention, by perfuming the breathing air, and otherwise contributing to cheerfulness of mind. There is something peculiarly pleasant and interesting to the sensible mind, in observing the opening flower apparently look up with smiles to the person who had planted it. Let no person say that flowers are beneath his or her notice, since the original design, creation and coloring of them has not been beneath the notice of the Divine Creator. The pleasure derived from a flower garden may truly be said to be cheaply procured; fifty cents worth of seed, and three hours labor is sufficient to produce the requisite variety, which, if arranged with due taste with regard to favorable contrast, will not fail to affect the mind of the passer-by more favorably towards the proprietor and cultivator of the flowers, than a display of wealth and costly embellisement.

Most of the flowers represented in the following plan are annuals, easy of culture, and will richly repay for the little attention they require.



Explanation.—In this cut is shewn a beautifully arranged plan for a small flower-garden, of the dimensions of about 24 by 10 feet.

A. Dwarf Sun-flower: *yellow.*
B. Purple Flocks: *reddish purple.*
C. London Pride: *scarlet.*
D. Bachelor's Buttons: *blue.*
E. Double Marygold: *orange.*
F. White Chrisanthemum.
G. Morning Glory: *various.*
H. Zinia, Splendid: do.
I. African Hibiscus: *variegated.*
J. Red and White Malope.
K. Crimson Coreopsis: *variegated.*
L. Mourning Bride: *dark purple.*
M. Sweet William: *diversified.*
N. Carmine Pinks.
O. Clove Pinks: *diversified.*
P. Double Feverfew: *white.*
Q. Evening Primrose: *pale yellow.*
R. Great Nasturtium: *scarlet.*
S. Golden Eternal Flower: *yellow.*
T. Variegated Marygold.
U. Purple and White Candy Tuft.
V. Escholtzia: *bright yellow.*
W. Red and white Petunia and Convolvulus.
X. China Aster: *various.*
Y. Dwarf Poppies: *variegated.*
Z. Larkspur: *brilliant blue*; and Ladies Delight: *variegated.*
*. Perennial Flax: *blue.*
‖. French Marygold: *orange.*

Circular

OF THE AMERICAN INSTITUTE OF THE CITY OF NEW YORK.

Notice has been received by this Institute that a Great National Fair will be held at Washington, D. C., commencing the 20th of May next, and continuing several weeks. The Trustees, on behalf of the Institute, regard such an exhibition, if ably conducted, at the Seat of Government, in view of our Representatives and distinguished Statesmen from the South and West, as well as the North and East, at this time, of vast consequence to the future prospects of this country. It will bring directly to the view of our Statesmen matter-of-fact evidence of the rapid march and high perfection of manufactnres and the arts under the system of Protection which has been adopted! It will show that in the short period of thirty years American ingenuity and skill have accomplished what has required centuries in other countries, and if the same wise policy enjoined by Washington and his illustrious successors is steadily pursued, will ensure our future prosperity and independence.

The progress of improvement has been so rapid that few, even in the manufacturing portions of the country have an adequate idea of its present magnitude. The annual product, and the high perfection of those articles which the wisdom of legislation has shielded from foreign competition, would be incredible, were they not confirmed by careful comparison and indisputable statistics. From a long list of hundreds we shall select only six, viz.: manufactures of Cotton, Wool, Leather, Paper, Cabinet Wares, and Iron, all which, from comparatively small beginnings, now yield more than One Hundred and Fifty Millions of Dollars per annum, and are increasing in a ratio that has no parallel in the history of industry.

This mighty increase far out-stripping our whole foreign trade, with the exception of the finer Cotton goods, only partially benefited by the minimum duty, and the supply of which foreign competition has thus far rendered insignificant—all these for a series of years, have been protected by a duty averaging forty per cent. The secret of their success, and acknowledged perfection, is *protection* against the inundating supplies which foreign countries would otherwise have poured into our markets. Cheap; cheap, indeed, in the outset, but dear in the end. We might, however, dispense with all speculation and argument, and rest our country's cause upon a single fact.

Every article which can be manufactured at home, and which has received a protective duty for seven consecutive years, has, by home competition, and consequent development of ingenuity alone, been reduced in price to the consumer below the foreign cost at the time of imposing the duty.

This fact, we believe, is without an exception since the formation of our Government. While other articles, only partially protected, such as Linen, fine Cotton goods, &c., have remained, some nearly stationary in their prices for a long series of years; or if their prices have materially declined, it has not been at all proportioned to the decline on the protected classes of articles. The difference to our country, whether made at home or abroad, admits of no mistake. In one case the money expended in fabricating, remains in our own country—in the other it is out of it.

The Trustees of the American Institute respectfully recommend to all the friends of industry to co-operate in carrying out this exhibition; particularly the numerous, intelligent and highly respectable corresponding members selected for this honor, whose various positions and high standing among their fellow-citizens, will enable them to exert an extensive and efficient influence.

The friends and patrons of this Institute, and the advocates of the noble object of its charter, are desired to lend their hearty co-operation. Also, Exhibitors at the Fairs of this Institute are desired to prepare, for the occasion, choice specimens of their numberless fabrications. Manufacturers, Mechanics and artisans of our country, you all have a deep interest in this Exhibition! No department of the Arts should be overlooked! but all should be represented!

It is in your power, by a full display, to make an Exhibition that will rouse the pride and warm the patriotism of every American beholder, in and out of Congress. A momentuous crisis is at hand; soon it will be determined whether our foreign competitors shall beguile us of our birthright, arrest our prosperity, and prostrate our independence, or not! The policy of the proposed Tariff, is to increase revenue by diminished duties—to present the strongest inducements to excess in importations—to break down the principal barriers against fraudulent entries, by repealing all specific and minimum duties, as if National wealth would be promoted by swelling the balance of trade against our own country! And more effectually to accomplish this, the value which regulates the duty, small as it is proposed to be on the imported article, will be determined by the owner himself. It will prove a law to transfer to foreigners your customers, who will be allured by the fatal syren sound of cheap! cheap! It is nothing to the purpose that you can produce as cheap as the foreigner. Modern competition is a war of capital. With vast money resources, the accumulations of ages, victory over our infant establishments must eventually be inevitable. Cost for a season will be no consideration. Like the steamboat competition, pursued at prices known not to pay, he who carries the longest purse is sure to triumph, and then he will raise the fare as his cupidity dictates. Combinations of foreign iron masters afford illustrations not less palpable, nor less instructive. We would say to all our fabricators of domestic articles, commence preparations at once, and in due season present yourselves at the great Fair, at the seat of Government, with the choicest specimens of your factories and workshops. Spare no expense! Success will repay you a thousand fold. There you will find foreign agents, and dealers in their merchandise, in swarms. You will at once recognize them. Assurance is stamped on their foreheads most eloquently—

"They'll talk of public good and mean their own."

Fresh patriots from countries where unequal rights and privileged orders are unalterable, have most disinterestedly encountered a voyage of three thousand miles to teach us to take care of ourselves, and to instruct our rulers how to legislate for a Nation of Republicans.

On behalf, &c., James Tallmadge, Adoniram Chandler, William Inglis, Shepherd Knapp, T. B. Wakeman, Henry Meigs, E. T. Backhouse, Trustees.

Repository of the American Institute.

New York, April 18, 1846.

N. B. The Committee desire that the price, as well as the maker's name, be furnished with each article exhibited - and that the owners will be expected to allow sales at the marked prices, to be delivered at the close of the exhibition. There will be a sale at auction of such articles as the owners may wish. Motive power will be furnished for machinery.

Graham's Magazine for May.—This number contains, in addition to the beautiful embellishments, and a well arranged variety of original and entertaining literature, the exquisite song and music of Kate O'Shane. This work may be found smiling at its headquarters, Tribune Buildings, New York, and 98 Chesnut st., Philadelphia.

The Youth's Cabinet, for May, is received with its usual variety. Among the illustrations we observe the Buttercup, the Parrot, (two engravings,) Clinton Hall; Portrait of Fulton; the Doves; Mary, Queen of Scots, with the music of "The first of May." Published at 135 Nassau st., (Clinton Hall,) for one dollar per annum.

a. We are about making a further improvement in our music characters.

From the last No. of the Phonographic Journal.

Progress of Phonography.

"Mr. Boyle has just completed the instruction of a class in Phonography, of about four hundred pupils, in the city of Providence, including many of the teachers of the public schools, and others interested in the cause of education. He has also taught a class of colored persons, adults, who knew nothing of the art of reading, to read phonotypic printing, in order to test and demonstrate the powers of the new phonetic alphabet, and of the true principle of spelling words. The result is, that these adults are able to read, after one month's instruction, as readily as the pupils of our public schools can do after one year's instruction; while it is well known that it requires more than twice the time and labor to teach adults to read which it does in the case of children.

In a letter just received from Mr. Pitman, after enumerating many striking proofs of the progress of the writing and printing reform in Great Britain, he concludes by saying, 'I have no time to mention half the great news which we are every day receiving from all quarters.'

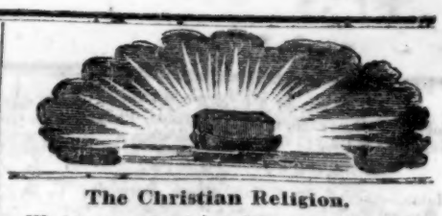
The following is an extract from a letter just received from a highly respected teacher in one of the western towns of Massachusetts,—'Your advertisements have produced quite an excitement in this part of the State. The theme is on every tongue. All are disgusted with the shocking barbarity of the present English usage, and wish a reform. Several years' experience in teaching has fully convinced me that such a reform as Phonography proposes would bring incalculable blessings to all classes of men.'

Some working men seem to have the impression that Phonography chiefly interests professional and learned men. The truth is precisely the opposite. The great end and aim of the writing and printing reform is to benefit the *masses*, by giving them the advantages which the learned alone now enjoy,—to help them to avoid the necessity of consuming all the time which they can give, in learning to read and write. They will, by means of it, save three or five years of their youth for solid acquirements, which are not wasted in the nonsense of learning to spell. Those who have a whole life to give to study can better afford to waste a few years in beginning. In England the matter is better understood by the working classes. In that country the greatest triumphs in Phonography have been among the operatives and mechanics, while it is well known that they, as a class, are very far behind the laboring men of this country in intelligence and education. We call loudly on the mechanics who understand *their own interests*: there are hundreds of them at this time, in this country, who should be engaged at once, not in learning, but in *teaching* phonography. The phonographic reform is eminently a work for the people.

Mr. Boyle has taught, personally, about 1500 pupils during the last season of four or five months. Phonographers can judge of the growth of our cause in the West by the fact that within the space of two or three weeks past we have received not less than twenty-five letters, containing orders for books from the distant State of Indiana."

An evening class is now receiving instruction in Mr. Lewis's Daguerreotype rooms, No. 142 Chatham st., (up stairs,) where any enquiries with regard to the subject may be made. Ed.

Statistics of a Naval Battle.—In the memorable action between the Constitution and Guerriere, which lasted but 25 minutes, and resulted in the capture of the latter, the following is an account of the shot thrown by the Constitution, which were enough to have sunk a navy, had all of them taken effect:—300 24 lb shot; 230 32 lb. shot: 10 18 lb. shot; 40 24 lb. do. double headed; 140 32 lb. grape; 120 24 lb. grape; 40 24 lb. canister; 62 32 lb. canister; 2,376 lbs. powder. The amount of human bloo and human life expended, and of wretchedness and suffering, produced in that short space, is not taken into the account."



The Christian Religion.

We have presented, in a former number, some illustrations of the principle, that a perfect knowledge of the Christian religion is the highest possible point of science, to which human beings can possibly attain in this world. It is our object to give correct and well-founded intelligence and instruction, on the most useful subjects, although we are well aware that some people will give a decided preference to some favorite subjects, and totally disregard others. Every subject has its particular friends, although those friends have different views with regard to the most correct theories thereof. For example, there is a diversity of opinions among mechanics and engineers, with regard to the best mode of propelling vessels: yet no one will say, on account of this diversity of opinion, that there is no truth nor propriety in the propulsion of vessels in any way. There are also a variety of opinions on the subject of the Cristian religion, and much jarring and clashing among its professed advocates, but this circumstance should not furnish an argument against the truth and genuineness of that religion, nor against the first leading principles thereof. It is a fact, too conspicuous, notorious and self evident to be denied or concealed, that the dignified leaders of the most popular professedly christian churches, have nearly, if not wholly discarded all regard for the pure truth and honor of the gospel, in their ambition and efforts, individually and in synod, to aggrandize themselves by promoting the popularity, in the world, of their particular favorite churches; and it is no wonder that some of the people who have indolently depended on the teaching of such leaders, instead of applying themselves to the study of the inspired Scriptures of truth, for instruction in religion, should eventually abandon the whole subject, and become infidels. But all this does not by any means prove that there is no genuine truth in the christian religion. The sacred scriptures, which are the base and foundation of the christian faith, furnish the only evidence of our immortality, of our prospect or privilege of enjoying a future state of existence, higher and happier than the present: yet without this prospect and hope, human life, accompanied as it is with pains, regrets, anxieties, delusions and disappointments, is not only more miserable than the lives of the various animals, but decidedly worse than non-existence. It is not fashionable for people to report their own mental sufferings, one to another; and consequently we are apt to suppose people comparatively happy, because they appear so; but from a very attentive and extensive observation of mankind, we have drawn the decided conclusion that there is no man living, but experiences a great deal more pain than pleasure,—more suffering of body and mind, than happiness, unless he enjoys the divine love of God, in the happy hope of a glorious immortality. In speaking of this hope, we do not mean to include the pretended hope of the superstitious Mahomedan, of abundance of luxuries, of splendid palaces and beautiful women; nor that of the savage, of pleasant hunting grounds in perpetual verdure: nor even that of some professed christians, of merely "going to heaven," in the form of a spirit without the body, and dwelling "beyond the bounds of time and space," (which theory has as much scripture authority as that of the purgatory of the Roman Catholics:) but the true and living hope of christians, in all ages, has had its foundation in the infallible word of divine Truth, and centres on the glorious appearing of Christ "in the clouds of heaven," when he will raise the dead, gathering "his elect from the four winds," and establish them in his glorious kingdom, (even the greatness of the kingdom *under* the whole heaven, Dan. 7: 27,) and dwell forever among them. Whosoever has the love of God, will in some measure appreciate the excellence of salvation and eternal life, and will search the scriptures to learn what the will of the Lord is, instead of depending on others to read and explain for them. Whosoever learns the commandments of Christ, and obeys them in honest integrity, will infallibly be blessed with the Spirit of Christ, and will rejoice with a peculiar sublime joy, which can not be expressed, in the hope (lively, confident assurance) of the glorious appearing of Christ, with his holy angels, to receive and glorify his waiting saints. However loud may be a man's clamor for, or profession of religion, if he does not love this subject of the appearing of the adored Savior in his glory, it may be reasonably suspected that he worships his favorite church, his favorite clergy, or his own popularity among his brethren, rather than the glorious Author of the pure and simple truth of the gospel. But "wisdom is justified of her children," and every man may ascertain by a little honest self-examination, whether the love of Christ (who is God) and his salvation, predominates in his heart, above all other consideration. If so, let him "rejoice evermore:" if otherwise, let him repent by obeying the whole truth "quickly," or he may be—oh, dreadful thought,—irretrievably too late.

Lift Him up.—Thy brother is in the ditch. Pass him not by. Give him thy hand and raise him up. Temptation was too powerful for him; ye yielded and has fallen. Pity him; say not a reproachful word. Cover his shame, and when he is himself, use kind words, and thou wilt restore him to virtue again. Scores of the tempted and fallen have thus been saved. The path to Heaven is thronged with holy spirits, who were once in the mire and dirt. Kindness saved them.

Somebody says,—That there is not in the world a surer sign of a little soul, than the striving to gain respect by such despicable means as dress and rich clothes; none will depend on these ornaments, but those who have no other.

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Vermont.—Thomas Boynton, Windsor.
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Rhode Island.—Daniel Cobb, Providence; H. J. Pitman, Bristol.
Connecticut.—Peter Cook, Hartford; E. Downes, New Haven; William Woodward, Middletown; S. Jones, Colchester; J. Hunter, Thompsonville; H. S. Snow, Meriden; Safford & Parks, Norwich; O. P. Butler, Northfield.
New York.—T. Dickinson, Newark; T. S. Hawks, Buffalo; G. W. Hildreth, Lockport; William M. Beauchamp, Skaneatles; M. Nevin, 158 Fulton street, Brooklyn; M. S. Leonard, Oswego.
New Jersey.—J.L. Agens, No. 1 Commerce street, Newark; J. M. Francis, Hoboken; Alfred Walling, Keyport; Lees Garside, Corner of Main and Market sts, Paterson.
Maryland.—S. Sands, 122 Baltimore st., Baltimore.
District of Columbia.—W. H. Ward, Washington.
Georgia.—Chas. O'Neal, Darien.
Florida.—Major J. Nathans, Quincy.
Illinois.—G. W. Arnold, Peru.
Ohio.—Col. A. P. Chesley, Huron.
Wisconsin Territory.—Norris Hubbard, Southport.

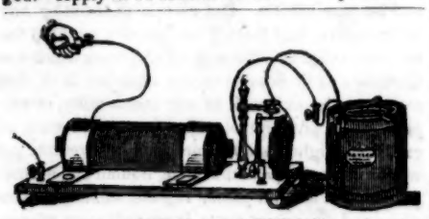
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PHRENOLOGY.
PROSPECTUS OF VOLUME IX., FOR 1847,
OF THE
AMERICAN PHRENOLOGICAL JOURNAL.
O. S. FOWLER—Editor.

To reform and perfect Man—to develope, by culture, the original beauties and capabilities of his nature—is a work the most arduous and exalted that can possibly engage human intellect or effort. To do this effectually, however, his nature must be known; and since Phrenology and Physiology imbody his entire constitution, there is no way by which we can so easily become acquainted with ourselves, or for what occupation in life we are best qualified, as by the aid of these sciences.

To these subjects, and their various applications will this Journal be devoted. It will present,

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Each number will analyze one or more of the phrenological organs, both singly and in their various combinations, illustrated by engravings showing their location. Each number will also contain the Phrenological developments and character of some distinguished individual, accompanied by their likeness. This department will give just that *practical* view of Phrenology which is required in order to fully understand its proper application.

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To know and obey those laws of life and health, unfolded by these sciences, constitutes the main basis and superstructure of talent, virtue, and happiness. This department will also be illustrated by engravings.

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Will receive its due attention; and our readers will receive, through this medium, all that is new, interesting and important.

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Her character, influence, sphere, and consequent duties; the government and education of children, &c., will be presented in this Journal.

Our field is indeed the world, physical, intellectual, and moral. Human improvement and happiness we shall endeavor to promote. Those, therefore, who are interested in the advancement of our race, and would ameliorate their condition, may do so, perhaps more effectually by circulating this Journal than by any other means; for it will imbody the principles of all reform.

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Office on F street, opposite the Patent Office.

He has the honor of referring, by permission, to Hon. Edmund Burke, Commissioner of Patents; Hon. H. L. Ellsworth, late ditto: Judge Cranch, Washington, D.C.; Hon. R. Choate, Massachusetts, U. S. Senator; Capt. H. M. Shreve, Missouri; H. Knowles, Machinist, Patent Office. april 2.3m*

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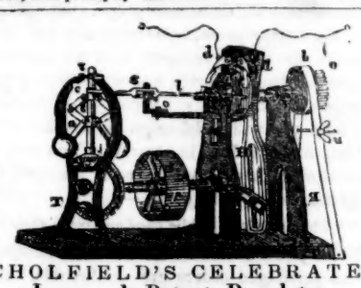
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Norwich Conn., Feb. 14. f15eowtf.

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Arrangements have been made with a lawyer familiar with the Patent Laws, who will attend to the legal branch of the business upon reasonable terms. Satisfactory references will be given. Applications may be made to the undersigned personally, or by letter, *post-paid.*

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(Near Broadway): New York.

BILL OF FARE.

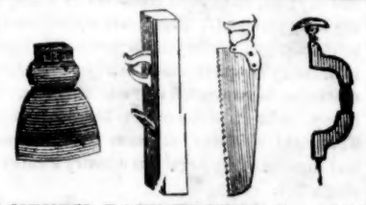
Roast Turkey,	18d	Boiled Ham,	6d
" Goose,	18d	Pork and Beans,	6d
" Chicken,	18d	Veal Pie,	6d
" Duck,	18d	Beef Steak Pie,	6d
" Beef,	6d	Chicken Pie,	12d
" Pork,	6d	Mush and Milk,	6d
" Veal,	6d	Rice and Milk,	6d
" Lamb,	6d	Lamb Pot Pie,	6d
" Pig,	12d	Fried Fish,	6d
Boiled Chicken,	12d	Fried Clams,	6d
" Mutton,	6d	Ham and Eggs,	12d
" Corned Beef,	6d	Chicken Soup,	6d
" Pork,	6d	Beef Soup,	6d
" Fish,	6d	Coffee,	6d

Dessert.

Suet Pudding	6d	Minee Pie,	6d
Indian Pudding,	6d	Apple Pie,	6d
Rice Pudding,	6d	Peach Pie,	6d
Plum Pudding,	6d	lum Pie,	6d
Bread Pudding,	6d	u mpkin Pie,	6d
Apple Dumplings,	6d	Custard Pie,	6d

Breakfast and Tea.

Beef Steak,	6d	Hot Corn Bread,	6d
Veal Pie,	6d	Indian Cakes,	6d
Mutton Chops,	6d	Boiled Eggs,	6d
Ham and Eggs,	12d	Fried Eggs,	6d
Fried Tripe,	6d	Toast,	6d
Fried Sausages,	6d	Hot Muffins,	6d
Fried Fish,	6d	Hot Rolls,	6d
Fried Clams,	6d	Tea,	3d
Fried Liver,	6d	Coffee,	3d



AT HENRY ROWNTREE'S old established *Tool Store*, at the Corner of Chambers and Chatham streets, Mechanics, Farmers, &c., will find an assortment of good Tools, suitable for almost every branch of trade.

H. R. feels obliged to his many customers, of every class, for their past patronage and hereby assures them that no pains shall be spared to procure the best articles in all variety.

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First rate Razors; Pen and Pocket Knives; Table Knives and Forks, &c.

☞ Remember, at the corner of Chambers and Chatham streets. dec26

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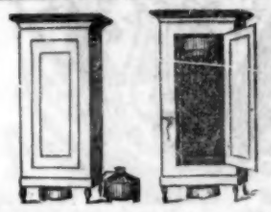
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Dec. 25.



Locke's Portable Shower Bath.

THE subscriber has the satisfaction to announce to the public, that he has perfected, and is prepared to furnish at short notice, a portable shower-bath, far superior in utility and convenience of management, to anything of the kind hitherto offered. It constitutes a light and genteel article of furniture for a bed-chamber, and so perfectly constructed, that either a lady or gentleman can at any moment enjoy a copious shower without the id of servants, and withodt having a drop of the water sprinkled on the carpet or floor. And by a slight change in a part of the apparatus, the same may be converted to a steam-bath, either plain or aromatic. These baths are manufactured and may be examined at No. 31 Ann st.
JOHN LOCKE.
Dec 4.

ILLUSTRATED BOTANY.

Edited by JOHN B. NEWMAN, M. D.

Circumstances make the man, and very often, as in the present case, the book. For years there has been a steadily increasing interest felt for the vegetable kingdom. Latterly this taste has been partially gratified by the literary magazines, which owe their popularity, in a great measure to the beautiful flower prints that adorn them. One specimen a month, however, is not enough, nor is it required in such connection. A work relating exclusively to the subject, is wanted by the public, and this want, the present enterprise is intended to supply.

Preceded by a short introduction on Physiology, and a view of the Natural and Linnæan Systems, the work will be devoted to a separate consideration of each plant.—Together with our own information, we shall draw on the standard works on Chemistry, Botany, and Medicine, combining every useful item of knowledge, and without lessening its value, present it in a concise and pleasing form. Obtaining our supplies from the same sources as the bee, we hope to *secrete* as elegant a sweet for the mind, as it does for the body. The properties of each, more especially the medicinal, will be confirmed, in a great number of instances, by personal experience. To this will be added its history; its meaning in the language of flowers; and poetry, either original or selected from the gems of the children of song.

The whole illustrated by splendid colored engravings, taken from nature, full size, and finished in the highest style of modern art.

This work is designed to be eminently popular in its application, and there is enough of that which is stronger than fiction about it, to render it, in no ordinary degree, interesting and instructive.

Terms.—This work will be published monthly, with four or six flowers, handsomely painted, in each number. Price three dollars a year, or two copies sent to one address for five dollars. A *very* liberal discount allowed to agents. J. K. WELLMAN,
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*** Furnished to Seminaries, Colleges, and societies, in clubs, 10 copies for $20 a-year.

PARTICULAR NOTICE.

We do not intend to confine ourselves to the botanical descriptions of each plant, but on the contrary, divested of technicality, intend to make it a thoroughly scientific work, in all the departments of Botany. It will also give information on the cultivation of Plants and Flowers. In a word, it will comprise the whole science.

We give below the *free* opinions of the press.

From the N.Y. Tribune.

"ILLUSTRATED BOTANY."—This is a new candidate for popular favor, in the shape of a monthly periodical. The first two numbers are before us, and if they may be regarded as speeimens of those which are to follow, the work will certainly prove highly attractive. It is to be devoted to a separate consideration of each plant in the vegetable kingdom, the whole illustrated by colored engravings, taken from nature, full size, and finished in the highest style of modern art. Four or six of these engravings will be given in each number. Those in the numbers already issued are of the most beautiful and splendid description. The Editor will draw on the standard works on chemistry, botany, and medicine, and thus combine in a brief form every useful item of knowledge respecting plants and flowers, their medicinal qualities, &c. To this will be added their history and their meaning in the "language of flowers." To all lovers of the beautiful in Nature and Art, we commend this work as eminently worthy of patronage.

From the Christian Advocate and Journal, (Edited by T. E. Bond, M. D.)

The painted specimens are really exquisitely done; and the great marvel with us is, how the work can be afforded at the low price of three dollars per annum, or two copies to an address for five dollars. Engravings can be cheaply multiplied, but paintings must be executed separately, and without the aid of labor-saving machinery. It will give us real pleasure to announce the successive numbers of this beautiful periodical, as we have been led to think the study of Botany not only as an innocent recreation, but eminently promotive of piety.

From the N. Y. Surgical and Medical Reporter.

We have received the first number of "The Illustrated Botany." This periodical is got up in a very neat form, and displays taste and judgment in its Editor, who, being a well educated medical man, is prepared to make a work of this kind very interesting and useful to the general reader. The colored plates are unsurpassed in beauty and finish.

From the Protestant Churchman (N.Y.)

ILLUSTRATED BOTANY.—The design of this work is admirable. It is intended to comprise scientific descriptions of the most valuable native and exotic plants, with their history, medicinal properties, &c. &c.

N. B. Publishers of newspapers who give the above prospectus three insertions, shall receive the work one year. march 26.

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